

Presented to the Staple Inn Actuarial Society

on 21st January 1997

PROTECTION PRODUCTS IN A CHANGING WORLD

by

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**Presented to the
Bristol Actuarial Society, 24th April 1997**

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1. Introduction

'O brave new world that has such people in't'

Shakespeare

1.1 The Changing World for Life Assurance

The last decade has seen a period of great change for the life assurance industry. The world has changed in ways that most companies would not have envisaged only a decade ago. Maintaining sales of traditional savings, investment and pension plans has become a real challenge. Many have therefore begun to look at our industry's unique selling point, protection, as one of their future strategies.

Design of protection products has perhaps been a rather straightforward process in the past. The changing needs of the UK population could mean that some lateral thinking may be required to design new products to fit into the changing world.

The first unit linked plans were designed as quasi with profit contracts until a lateral step was taken to produce today's type of product. Could it be that a similar step may be necessary to produce a new generation of protection plans?

This paper aims to:-

- Explore the external influences that have affected the state of the personal protection market.
- Analyse how these influences have changed mortality and morbidity experience and examine other factors that may affect experience in the future.
- Consider how can we meet the needs of the policyholder in the long term protection of their lifestyle and family, taking account of the above trends and influences.
- Question whether we will be able to distribute the new product types in a cost efficient manner.

1.2 Scope of the Paper

The scope of the paper is restricted to personal protection needs in the United Kingdom, rather than keyman or corporate covers. Generally it considers individual business only although it is fair to say that group products could cater for many of the needs and influences discussed.

1.3 Discussion

The aim of this paper is to promote discussion. Those wishing to read about a definitive new 'wonder product' may be disappointed. The authors are aiming to suggest various themes and ideas that may lead to a new outlook for product design in what we perceive is a changing world. We look forward to a stimulating discussion on the subject.

2. The Changing World

'Come my friends, tis not too late to seek a newer world.'

Alfred, Lord Tennyson

2.1 Changes and Trends in the UK

The past two decades have seen major changes in both the size and structure of the UK's population, as well as in factors influencing our lifestyle. Understanding these changes is vital when looking to analyse our future life and health assurance protection needs. This chapter investigates the changes in demographics, economics, family life and lifestyle and asks where the trends may lead.

2.2 Demographics and The Family

2.2.1 Age Distribution

The United Kingdom, in common with the rest of Western Europe, has an ageing population as birth rates continue to decline and longevity increases.

In 1971, just under 13% of the population were aged 65 and over. This percentage had risen to 16% by 1994, and is predicted to rise to 23% by the year 2031. With the population still growing, these figures are even more striking in pure numerical terms. For example, looking at the very elderly, the number of lives aged 80 or over has increased by almost 100% over the last 25 years.

In contrast the number of children aged under 16 fell from 25% to just over 20% of the total population between 1971 and 1994. This trend is also projected to continue.

The total period fertility rate measures the average number of children expected to be born to each woman if current age specific birth rates continue, taking account of changes in the size and age structure of the population. This rate peaked in 1964 at 2.95 and fell rapidly to a low point of 1.77 in 1977 where it appeared to have stabilised before falling further to 1.75 in 1994. As an aside, a rate of 2.1 is required for long term population replacement.

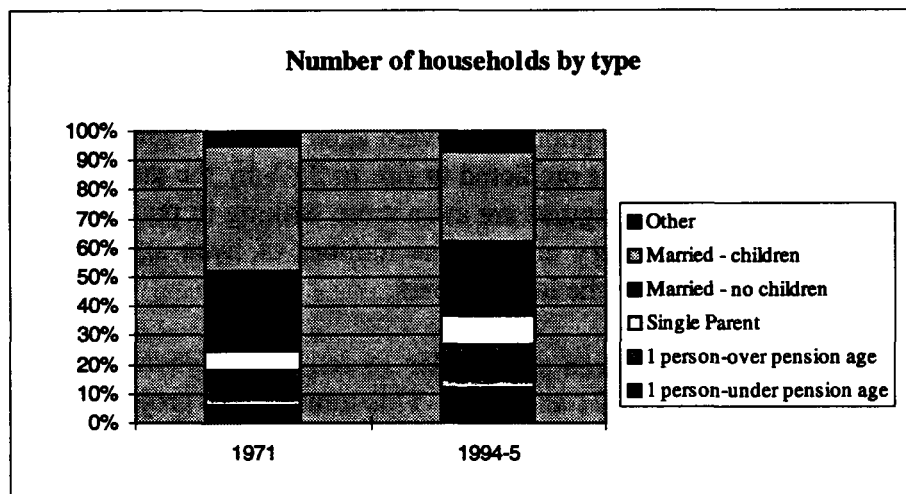
This measure, however, does not take account of trends in the ages at which women have children, and is predicted to fall further over the next decade as the average age of women giving birth to their first child rises. The steady rise in the number of women who choose not to have any children will also act to reduce the fertility rate further.

2.2.2 The Family Unit

The structure of households and characteristics of family composition within the UK population is changing. There has been a demise of the traditional family unit of two parents with their 2.4 children, a reduction being noticeable in the average size of household.

The mean size of household has decreased from 2.91 in 1971 to 2.44 in 1993. This reduction results mainly from the increase in the proportion of one person households from 17% in 1971 to 27% in 1994, although it appears that this ratio has now stabilised. An increasing elderly population, first marriages occurring later in life and rising divorce rates all contribute to this effect.

While the number of first marriages in the UK has fallen by nearly 40% over the past 30 years, there has been a seven fold increase in the number of divorces. The increasing divorce rate has resulted in a three fold increase in the number of single parent families since 1971, with 19% of children living just with their mother and 1% just with their father.



The falling birth rate has also had its effect on the average household size, as people choose not only to have children later in life, but to have fewer children. Part of the reason for the reduction in the number of children women bear could be attributed to the increase in their age at marriage.

Migration trends, with young adults moving to areas other than their childhood home towns, also play their part in the break up of the family unit. It is no longer easy for elderly parents to be cared for by their children. Not only are their daughters and daughters-in-law more likely to be working than would have been the case 20 years ago, but the parents would have to move to a new area to live with their children. This option is not attractive to many of the elderly.

Together, these trends result in an ever increasing importance being placed on the individual rather than the family.

2.3 Economic Trends

2.3.1 Economic Activity

There has been a decrease in the size of the labour force aged 16 to 24 since the mid 1980s reflecting both the fall in births in the early 1970s and an increase in those furthering their education beyond age 16. Conversely the high birth rates of the 1960s have led to an increase in the number available for work between ages 25 and 44.

Over the past decade there have been significant changes in the economic activity rate, that is, the proportion of the population over age 16 in the labour force. The pattern of these changes differs dramatically for men and women. In 1971 80% of men aged between 60 and 64 were economically active. This rate had fallen to just over 50% by 1996. Men in other age groups have also experienced reductions in economic activity but to a lesser extent.

While the overall rate of economic activity for men has been falling and is projected to continue to do so, for women the rate has been rising. The percentage of all women aged 16 and over who are economically active has increased from 45% in 1971 to 54% in 1996. This increase is partly due to growth in the number of part-time jobs but also due to women having fewer children, delaying having children and being more likely to return to work after having a child.

2.3.2 Type of Employment

In the past twenty years the UK labour market has been subject to major change. Unemployment, rising since the mid 1960s peaked at over 3 million in 1986 before beginning to decline. By 1990 it had fallen to around 1.6 million. It then rose again in the recession of the early 1990s and at the time of writing is expected to fall to 2 million during 1997. However, this hides many changes experienced within the working environment.

Over recent years there has been an increase in the number of part time jobs and fixed term contracts available in the UK. Increases in flexible working patterns or flex-time and home working have also influenced the working practices in the past decade.

During the last ten years, there has been a 12% rise in the number of women in part-time employment, bringing the total number to 5.2 million. Among men the number has doubled over the same period, to 1.2 million. These increases almost certainly have been at the expense of permanent full time positions, where we have seen a 2% decline in male full time employment.

In spring 1995 there were 1.5m temporary workers, a 10% increase on 1994. More than 40% of those in temporary positions held them because they could not find permanent employment, rather than from a desire for variety and flexibility. Research

also shows that women are twice as likely as men to hold temporary positions. The decline of the family unit can often lead to a disruption in working life as the parent aims to balance the pressures of running the home and holding a job, heightened by the fall in traditional forms of support being available.

2.3.3 Unemployment

The previous sections studied those who are in employment. Many are economically active but unemployed.

Redundancy is a real fear amongst many people, and, although now on a downward trend, redundancy rates have been high over the last decade. Older and younger workers were the most likely to be affected, with men more vulnerable than women.

The days of 'a job for life' are gone. Many people now have a much shorter term outlook than that of previous generations.

2.3.4 Home Ownership

There has been a significant movement towards home ownership over the last 10 to 15 years, with owner occupied homes increasing by a third between 1981 and 1994. The number of homes of all types increased by 12% during this time, with the number of owner occupied homes increasing to just over 16 million from 11 million in 1981. Part of this rise resulted from the change in legislation in 1980 which enabled council tenants to buy their homes.

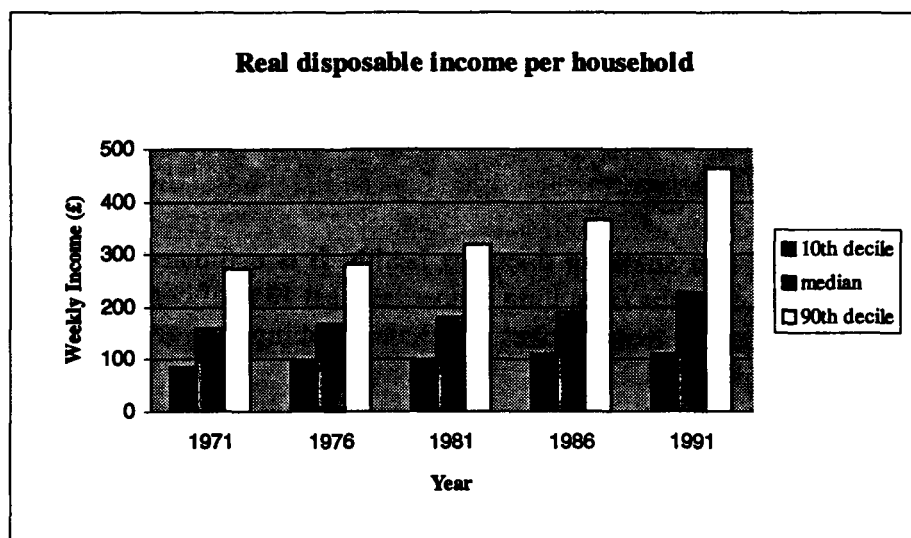
Will this trend towards greater home ownership continue? Will many of the individuals who were caught in the negative equity trap be confident enough to buy a house again?

2.3.5 Disposable Income

Disposable income is the amount of money people have available to spend or invest, after payment of taxes and national insurance contributions. Expressed in real terms household disposable income per head has increased by nearly 80% between 1971 and 1994. This, however, hides many pertinent issues relevant when targeting insurance products and sales.

Earnings from employment are in general the largest source of a household's income. Wages differ significantly between men and women, which in part reflects the fact that women undertake the majority of caring, particularly for children, and are therefore not able to be as active or ambitious in the labour market.

However, for men and women who were full time employees, the gap between the highest and lowest earners has widened. After adjusting to April 1995 prices, the gap between men in the bottom and top decile earning groups was £203 per week in 1971, rising to £419 in 1995. For women the gap widened from £122 to £290 over the same period. So while average real disposable income rose between 1971 and 1995, the gap between those with high and low incomes diverged significantly.



Trends in disposable income can also be analysed by examining the number of individuals with below average income. The proportion of the population with income below half the average level has more than doubled over the past fifteen years, to 20% of the population. This section of the population contains more retired households than seen in other income level groups.

In summary, the rich are getting richer; the poor poorer.

2.4 Social Habits and Health

Health is determined by a whole range of influences, from genetic inheritance, through personal behaviour, family and social circumstances to the physical and social environment.

The last 100 years have seen a transformation in the lifestyle of people in the United Kingdom, often resulting in beneficial changes in their health. The government and charities continually strive to take action to ensure that people are properly informed about issues affecting their health and have the freedom to exercise choice. The general public cannot be forced to behave sensibly in terms of their smoking, eating, alcohol, exercise or sexual habits. However, ensuring that everyone has the best possible information available to understand how their own behaviour can influence their health will promote a healthier lifestyle and evidence of this has already been seen.

2.4.1 The Health of the Nation

The Government as part of its 'Health of the Nation' strategy, launched in 1991, emphasised disease prevention and health promotion as ways in which improvements in health can be secured. Targets have been set for reducing death rates from heart disease, stroke and some cancers as well as suicides, sexually transmitted diseases and accidents at certain ages. A progress report to the original paper was published in Summer 1996 and progress is being made towards many of the targets given.

Trends in each of the main areas are discussed in the sections below.

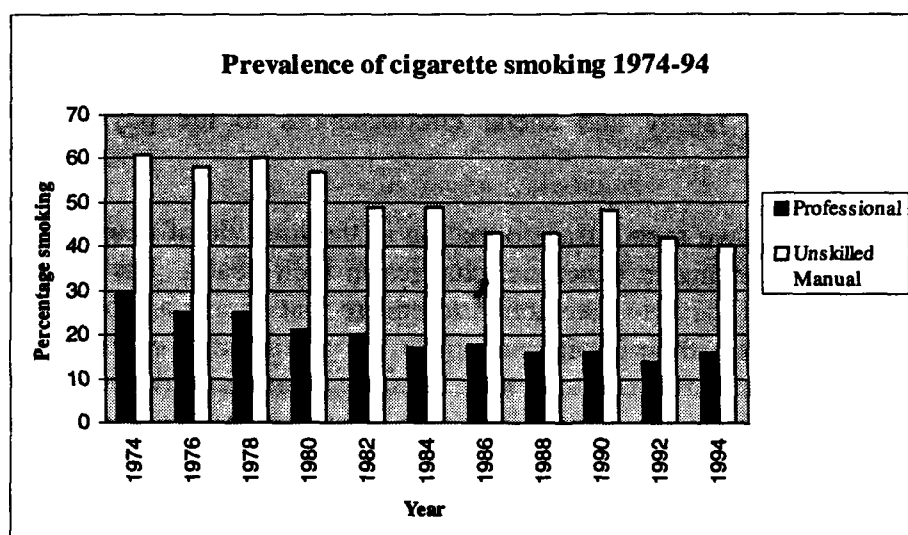
2.4.2 Smoking

It is widely accepted that smoking damages health. It is estimated that it is directly responsible for 80% of deaths from lung cancer, at least 18% of coronary heart disease deaths, and 11% of deaths from strokes. Include smoking as a secondary factor and these numbers are higher still.

The last two decades have seen a significant fall in the percentage of both men and women who smoke cigarettes, although the decline among women is somewhat slower than for men.

For men the percentage aged 16 or over who smoke regularly has reduced from 50% in 1974 to 28% in 1994 and for women the equivalent figures are 40% reducing to 25%.

Smoking habits vary significantly by socio-economic group. The highest prevalence of cigarette smoking is amongst those in unskilled manual occupations who are more than twice as likely to smoke as men in professional households. A similar pattern is seen for women. The greatest reductions in the proportion of people smoking has also been demonstrated by the professional classes.



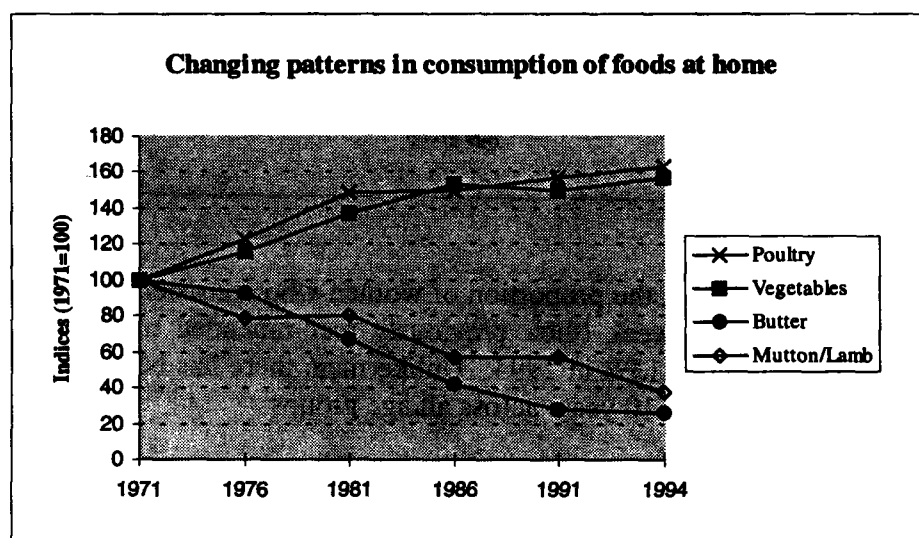
The target of the Health of the Nation task force is to reduce the prevalence of smoking among men and women aged 16 and over to no more than 20% by the year 2000. Although there is likely to be a hard-core of smokers who are resistant to change, the trends in fewer people smoking look set to continue as awareness of the health risks of smoking are understood and social attitudes change. For example, workplaces and many public areas, such as aeroplanes and restaurants have become smoke free zones. The Government has a target that 80% of public areas will be smoke free by the end of the century.

2.4.3 Eating Habits

Nutritional deficiencies no longer present a major public health problem, and an improved diet has contributed to the longer expected lifespan. Nevertheless many people still eat in a way which, over time, can contribute to the risk of developing serious ill health and to premature death.

Current studies estimate that dietary factors and smoking together account for at least half of coronary heart disease in the country. Obesity is a diet related condition whose complications include diabetes and hypertension.

Some control over health is therefore achieved by choosing a healthy diet, and since 1970 a significant number of changes to diet have been made. Current advice that we should eat more fruit, vegetables and starchy foods rich in fibre, and less fat, salt and sugary foods is being adopted, particularly by the younger generation. There has been a steady decline in the average percentage of food energy derived by the population from saturated fatty acids. This percentage has reduced from 25% in 1975 to 16% in 1994.

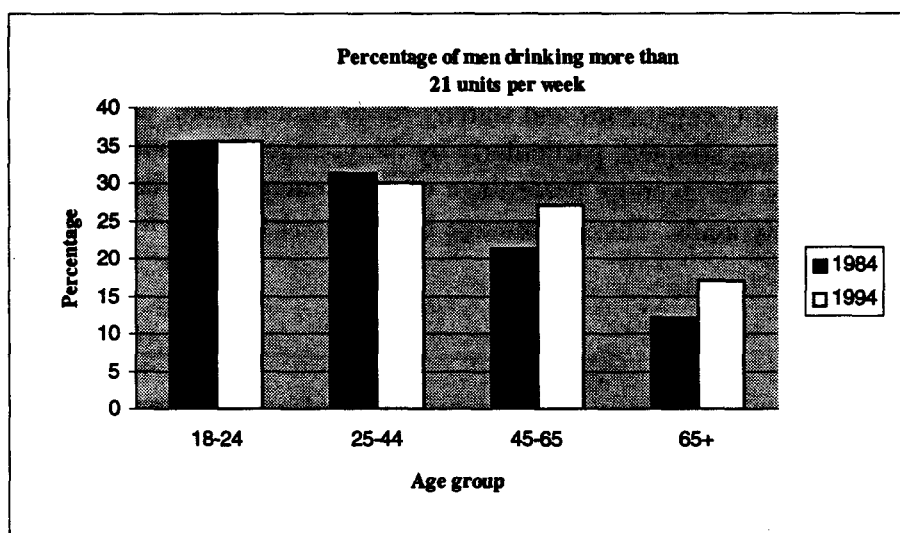


However, despite this good news, obesity is increasing amongst both men and women. Between 1980 and 1994, obesity, measured as those whose Body Mass Index (BMI) is over 30, has more than doubled, from 6% to 13% for men. For women the corresponding figures are 8% and nearly 16%. (BMI is calculated by dividing weight in kilograms by height in metres squared.)

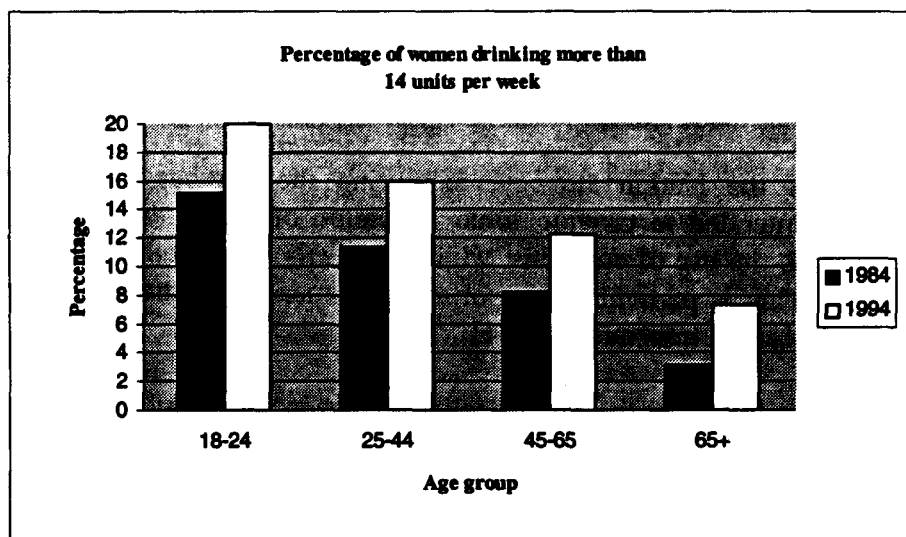
2.4.4 Drinking Habits

Current medical opinion is that light to moderate drinking of alcohol is unlikely to damage our health and may even be of benefit to certain groups. However, sustained consumption at higher levels progressively increases the risk of raised blood pressure, stroke, some forms of coronary heart disease, various cancers and cirrhosis of the liver.

Following an increase from 25% in 1984 to 27% in 1986, the proportion of men whose consumption is consistently above 21 units per week (the previously recommended maximum level) has remained stable at this level. Trends in consumption have, however, varied by age group, as indicated below.



Over the same time frame, the proportion of women who consistently drink more than 14 units of alcohol per week (their previously recommended maximum limit) has risen from 9% in 1984 to 13% in 1994. Unlike men, there has been a rise in alcohol consumption over the past 10 years across all age groups.



There is no clear pattern linking the level of alcohol consumed among men to their gross weekly individual earnings. Among women however, the proportion drinking more than 14 units of alcohol per week increases with increasing income. With more women working now than did in 1984 this could, in part, explain their increased alcohol consumption over this period. It would be interesting though, to know whether it is the increased pressure from working or the increase in income that has had most influence on this relationship. Having children later in life could also influence the trend.

2.4.5 Exercise

Physical activity is as much a necessity for healthy living as food and sleep. It helps to prevent heart attack, to maintain a healthy weight, to strengthen bones, and to preserve independence in the elderly.

Surveys suggest that participation in sports and physical activity is increasing slowly, although still at a low level. In the UK as a whole the percentage of adults participating in sports, games and physical activity is only 33%. However, there are wide variations between different groups of the population. Women are less likely to be physically active than men, and participation decreases with age.

Participation also varies with socio-economic group, with activity being more prevalent among non-manual than manual workers. Those in professional occupations are nearly twice as likely to take part in a physical activity than those in unskilled manual jobs.

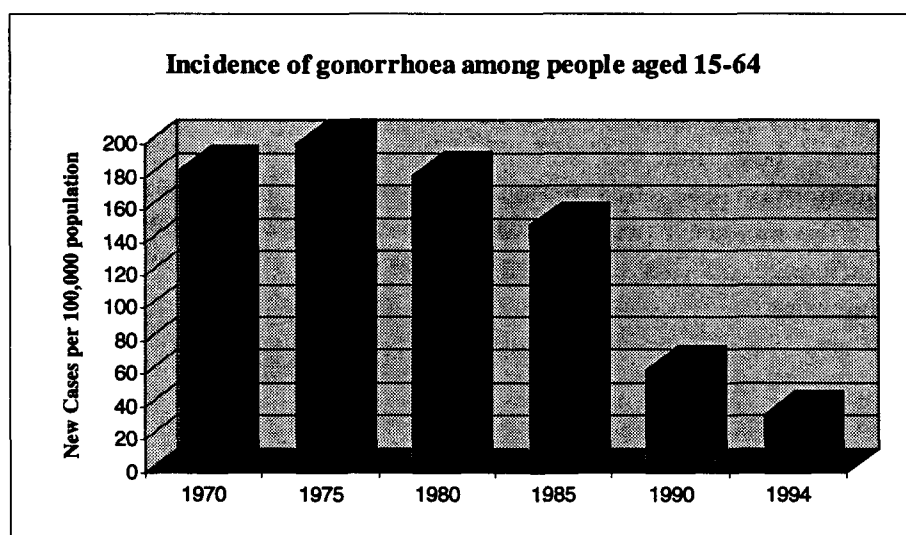
2.4.6 Sexual Habits

HIV/AIDS is arguably the greatest new threat to public health this century. Other

sexually transmitted diseases (STDs) have tended to be overshadowed by HIV/AIDS but they are nevertheless important and disabling in their own right and may facilitate the spread of HIV.

In the Health of the Nation strategy, measuring the number of new cases of gonorrhoea was intended to provide some indication of trends towards safe sexual behaviour, such as the use of condoms, which are likely to reduce the incidence of a range of STDs. This is particularly important as a marker of changes of behaviour likely to limit the sexual transmission of HIV/AIDS.

The graph clearly illustrates the rapid decline of the incidence of gonorrhoea in the general population, with the number of new cases of the disease being less than a fifth of the level experienced twenty years ago. Indications are, though, that the fall in incidence of gonorrhoea in the homosexual population has not been as significant.

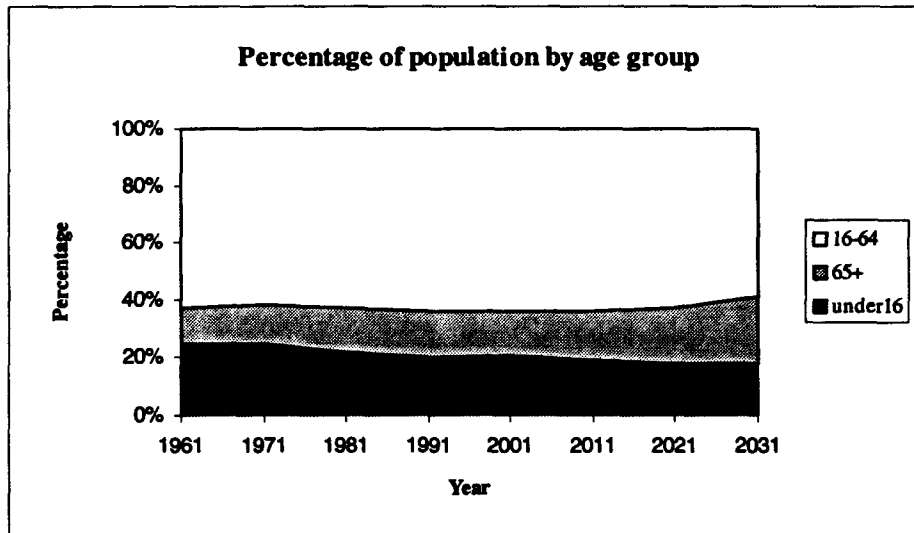


2.5 The Welfare State

2.5.1 Dependency Ratio

Welfare support for those suffering financial hardship through sickness or unemployment is financed on a pay as you go basis by the economically active. The population over retirement age together with those under working age, form the dependant population and provides a crude measure of the proportion who require support.

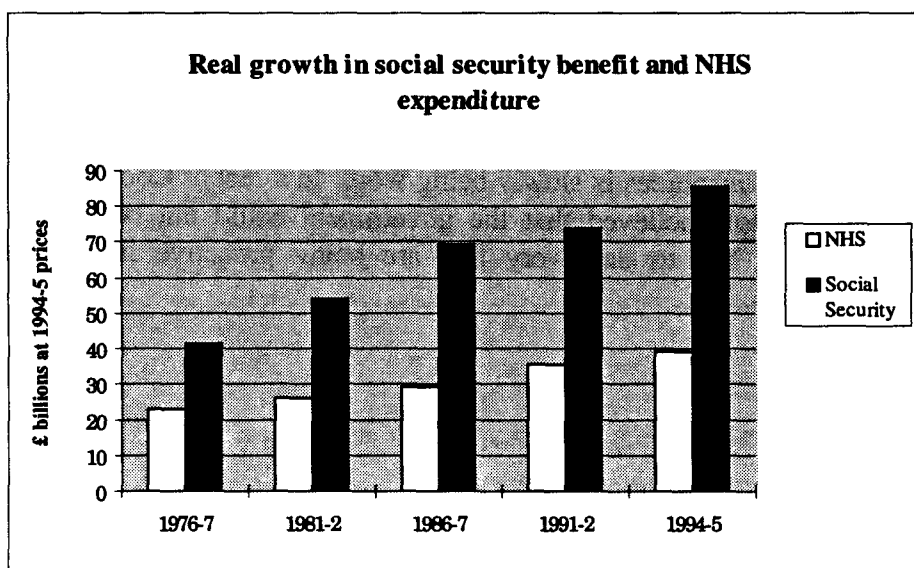
The graph below illustrates that the fall in the number of children below 16 more or less offsets the increase in the number of elderly within the population over the next 15 to 20 years. Only after 2021 will the dependency ratio worsen. This reflects the entry into today's working population of the 1960s baby boom.



However, increasing unemployment and the growth in the number of retired people both result in a greater demand for social security benefits. Add to this the growth in real expenditure on sickness and disability benefits and the strains on the future ability of the government to continue to meet the social funding needs are apparent.

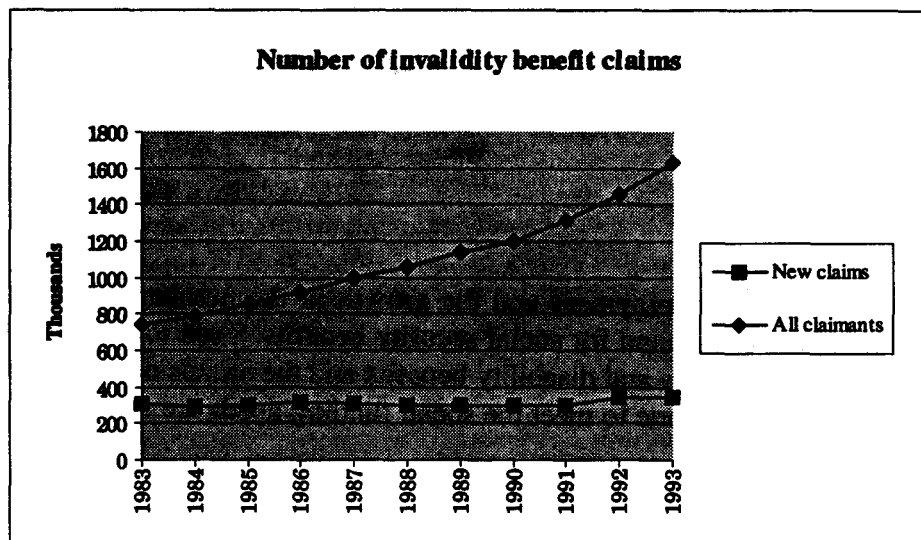
2.5.2 Social Security Expenditure

Around one third of general expenditure by the government is spent on the social security programme. By 1994-5 expenditure on social security had doubled in real terms compared to that spent in 1976-7 to almost £90 billion.



This does not account for all health and welfare services. In addition, the charities through voluntary income spent in excess of £1.6 billion in 1992-3 on health, welfare and housing.

In recent years the Government has tried to reduce the cost of social security by introducing more stringent benefit testing and reducing the benefit available. However, analysing the invalidity benefit claims, it could be reasoned that the government is addressing the wrong issue. A comparison of the number of new invalidity benefit claimants with the total number of claimants suggests it is the low termination of existing claims rather than the high number of new claims that is responsible for the growth in expenditure.



At the same time as trying to reduce the number of claims they will support financially, the Government has encouraged private provision. This is highlighted by the initiatives for long term healthcare and mortgage payment protection schemes discussed over the past few years.

Whichever way the public sector provision develops in future years, great opportunities must exist for the private sector to meet the shortfalls of public provision. The hurdle of overcoming the general public's ignorance of the true extent and limits of public resources is slowly being won. In a recent Coopers and Lybrand survey 87% of people believed that the government could not be relied upon for financial support. Yet to date very few are being proactive in making private provision.

3. Influences on Mortality and Morbidity

'To lengthen thy life, lessen thy meals'

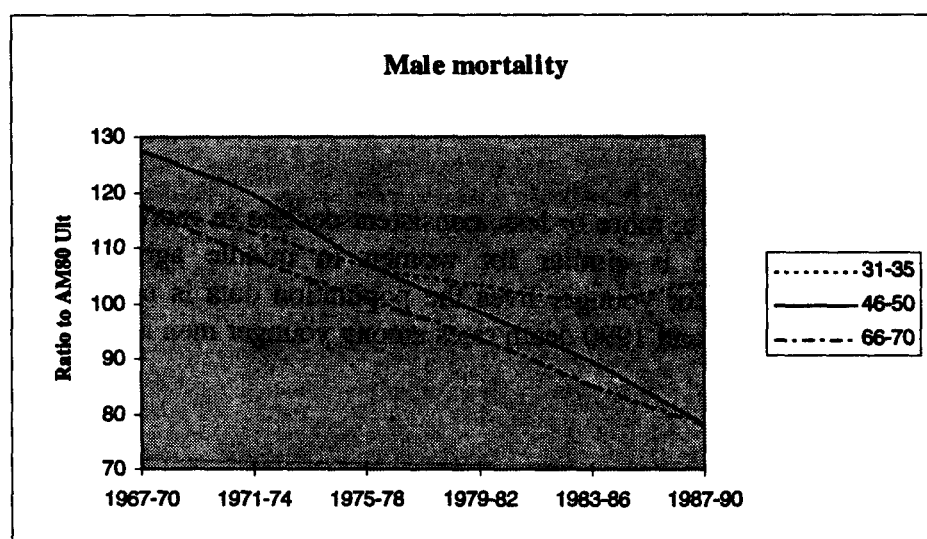
Benjamin Franklin

3.1 Introduction

The previous section has discussed the trends in lifestyle and health in the UK. This section explores how these trends are currently influencing the levels of mortality and morbidity being experienced and gives some thoughts on possible future trends.

3.2 Assured Lives Mortality Experience

The following graph is derived from CMI data and examines the trend in male mortality experience for permanent assurances over the period 1967 to 1990 by comparing actual ultimate experience to AM80 (2) Ult.:



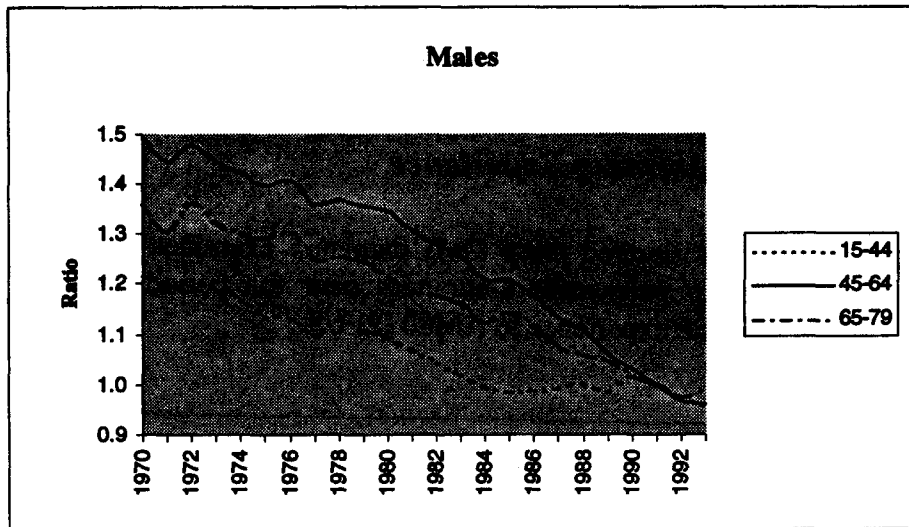
Mortality has been improving at a much greater rate in the age range 46 to 50 than in either younger or older ages. In the age band 31 to 35 there was an increase in mortality in the latter half of the 1980s.

3.3 Population Mortality Experience

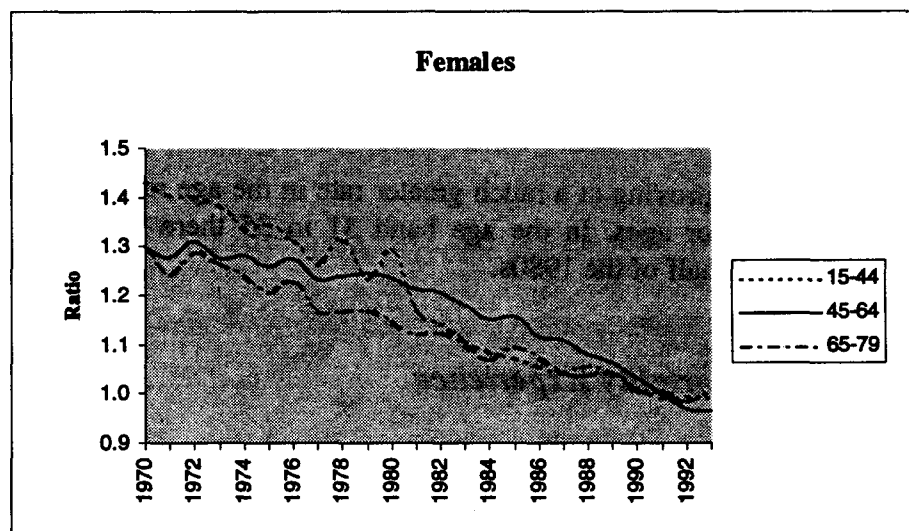
To investigate reasons for these trends it is useful to look at population mortality. This has also been improving at a very fast rate. For a male born in 1993 life expectancy is an estimated 74.0 years compared with 71.6 years for a male born in 1983. For a

female the figures are 79.3 and 77.5 respectively. These improved general figures do mask some important differences between mortality rates being experienced by different age groups.

The following graphs show comparisons of population mortality between 1970 and 1993. The graphs show the ratio of death rates for age groups in the UK to the rates for 1990-2, standardised on the 1991 census age distribution.



For men there has been a, more or less, consistent decline in mortality at the middle age range. The picture is similar for women in middle age although not as pronounced. However, for younger lives the population data is not so encouraging. Between the mid 1980s and 1990 death rates among younger men and women stopped falling.



3.4 Possible Reasons for the Trends

3.4.1 The Younger Age Group

Considering the younger ages we can try to find out why the improvement has not been as marked by examining causes of death in the general population.

For men at younger ages deaths due to cancer and heart disease have continued to decline and there have been fewer accidents. The rise in mortality is accounted for by an increase in suicides, 'open verdicts' and 'other causes' of death.

Three quarters of these deaths due to 'other causes' are in respect of disorders involving the immune mechanism. Most of these deaths are from HIV/AIDS infection. Many of the other medical causes of death may be attributable to HIV/AIDS as well as some suicides and open verdicts, but not detailed as such on the death certificate. Some investigations have estimated that only 30% of AIDS deaths are stipulated as the main underlying cause on the death certificate. AIDS may therefore be responsible for almost all the causes resulting in increased mortality among 15 to 44 year old men during the late 1980s.

There has been a clear decrease in the number of accidents, the major cause of death among women, but this is being offset to some extent by increases in suicides and open verdicts. There have also been increases in deaths from infections, nervous system diseases, cerebrovascular and respiratory disease. Cancer of the breast and cervix have led to a higher number of deaths among women in their 30s, while deaths arising from other cancers have fallen.

3.4.2 The Middle Age Group

In the previous chapter it has been shown that there has been a large reduction in the percentage of population who smoke, together with an improvement in diet.

These influences appear to be directly linked to why mortality rates from heart disease, lung cancer and stroke have reduced in the middle age group. For men the death rate from heart disease has fallen from 148 deaths per 100,000 population in 1972 to exactly half this rate in 1994. The rates of male deaths from lung cancer and stroke have also halved over the same period.

3.4.3 The Older Age Group

A recent study has been made of old age insured mortality experience in the USA. The study considered lives aged 70 and over at the time of policy issue and the experience was calculated for the calendar year 1992 on policies issued after 1962. The expected death rates were based on the Society of Actuaries A75-80 Basic Select and Ultimate Tables.

The overall mortality ratio, actual to expected, was 38.4% by amount and 49.9% by number of policies. Both of these figures were lower than two earlier similar studies. The overall mortality ratio by amount for non smokers was 31.0% and smokers more than twice as high at 70.4%. However the exposure of known smokers was only 7% of the whole, so the sample here is very small.

Clearly the evidence is that mortality improvements continue in old age. Medical advancements mean that people are living longer and perhaps the benefits of the improved diet and higher prosperity of a greater proportion of the population are now being experienced.

3.5 Prevention and Cure

Although smoking is perhaps the major reason for the reduction in mortality rates over the recent past there have been other major advances in both the prevention and cure of many diseases.

3.5.1 Prevention

An example of the 'prevention rather than cure' philosophy is the NHS breast screening programme for women introduced between 1988 and 1990. Breast cancer is the leading cause of death from cancer among women in England, responsible for about 19% of cancer deaths in this group.

In 1993 and 1994 over 1.6m women over the age of 50 were invited for screening and cancers were detected at a rate of 5.5 per 1,000 women screened. The Health of the Nation target is to reduce the death rate from female breast cancer in the population invited for screening by at least 25% by the year 2000 from the 1990 baseline rate. Rates have been falling and progress towards the target is being made.

The above is just one example of a disease which, if identified early through screening, results in improved treatment which is much more likely to result in long term survival. Another example is the early detection of hypertension and education of the public into some of the causes (obesity, excess salt, excess alcohol) which can be controlled.

Generally therefore prevention of disease has had a favourable impact on mortality rates and can be expected to continue to do so.

3.5.2 Cure

There has also been significant progress on 'cure'. For certain conditions survival rates following diagnosis of a serious illness are much improved. For some cancers and forms of leukaemia, the understanding of the correct chemical treatments has greatly improved resulting in much greater chance of survival. Techniques in the

treatment of heart disease including bypass surgery, angioplasty and even heart transplants or using artificial heart components have greatly improved survival rates. In diabetes advances have been made in prescribing the correct combination of drugs and young sufferers are likely to live much longer.

3.6 Mortality by Social Class

An analysis of trends in mortality and reasons for improvements is not complete without consideration of mortality by social class.

3.6.1 All Cause Mortality

The OPCS has performed a longitudinal study in England and Wales of mortality by social class since 1971. It classifies people according to their social class in 1971 and has analysed what was a 1.1% sample of the population since that time.

The following table gives standardised mortality ratios for males age 15 to 64. The results show that, as may have been expected, mortality is lowest for social class I and highest for social class V.

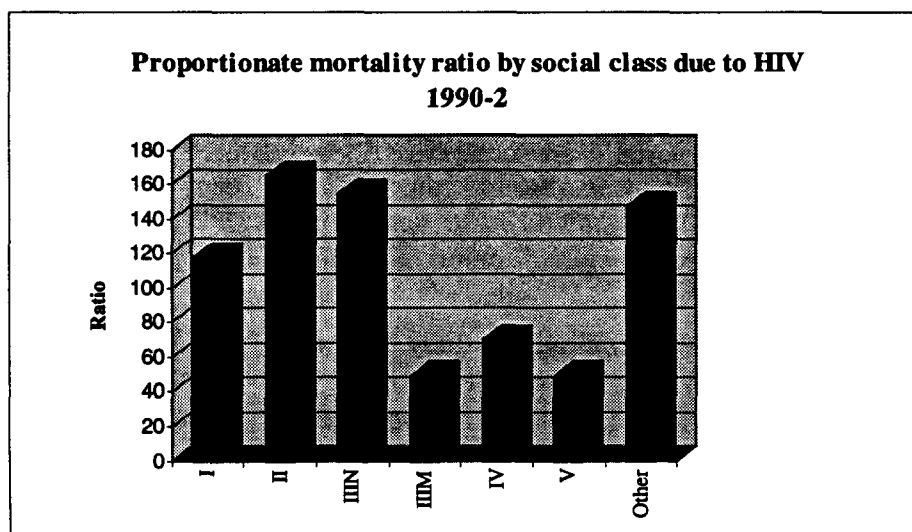
Social Class in 1971	Longitudinal Study			
	1971-1975	1976-1981	1982-1985	1986-1989
I	80	69	61	67
II	80	78	78	80
IIIN	92	103	98	85
IIIM	90	95	101	102
IV	97	109	113	112
V	115	124	136	153
All social classes	100	100	100	100

The above table naturally has implications for the pricing basis used for life assurance. Companies in different sectors of the market will offer different products. Higher sums assured are effected by lives in higher socio-economic classes and mortality experience is therefore expected to be better on these plans. This also reflects the much greater medical selection criteria obtained than for products with lower sums assured bought by the lower social classes. The higher prevalence of smoking among the unskilled and manual occupations also contributes to this differential.

3.6.2 AIDS

Death registrations which detail occupation enable population AIDS deaths to be analysed to investigate which groups of society have been affected more than others. The following graph shows that a higher proportion of deaths have occurred among

men aged 16 to 64 in Social Classes I (professionals), II (intermediate) and IIIN (non-manual skilled) than among Social Classes IIIM (manual skilled) and IV and V (unskilled workers). The 'other' groups, among whom there was also a high proportion of deaths, includes students and those with no occupation.



3.7 Morbidity Changes

The following sections explore trends in morbidity experience. When considering these trends it is important to distinguish between the two measures of morbidity - prevalence rates and incidence rates. In any population, the prevalence rate of a disease is the proportion of people currently suffering from the condition whereas the incidence rate is the rate at which they enter the 'suffering' population.

The trends in morbidity are more difficult to analyse than mortality. Improved treatments for a disease may result in an increase in prevalence even if the incidence is unaltered or reducing. A further effect of this could be a reduction in the mortality rate for the disease. It does not follow, therefore, that morbidity is improving in line with mortality, especially when analysing trends in prevalence.

3.8 Assured Lives Morbidity Experience

There are two main products on which morbidity experience is beginning to be built up, PHI and critical illness and the following gives some comments on the experience.

3.8.1 PHI

The latest experience for individual PHI was published in The Actuary in November

1996 and compares preliminary experience for 1991-4 for actual claim inceptions and terminations, with the results for 1987-90 published in CMIR15. For males claim inception rates for the most common deferred periods, 13 and 26 weeks, have remained approximately constant. There has been a deterioration in the 52 week deferred inception rate but, perhaps surprisingly, an improvement in the 4 week deferred experience. Claim inceptions for females remain substantially higher than for males, but have improved over those for the previous period.

For termination rates experience has improved at the very short durations, i.e. recovery rates have increased. At the longer sickness durations, experience has generally deteriorated.

These results back up the statistics shown in section 2.5.2. Once people have become sick for a period, it is less likely that they will recover and get back to work.

3.8.2 Critical Illness

It is early days for a full analysis of critical illness to be credible, especially in the case of the 'non core' diseases. As may be expected, the core diseases have provided most of the claims to date, cancer being the most common. There has been some evidence of anti-selection on early cancer claims where policyholders visit the doctor shortly after effecting a policy. Underwriting can be successful in reducing early claims for certain conditions but is less effective for others. This factor has also influenced the pattern of emerging cancer claims.

It is probably too early to draw too many conclusions from the assured critical illness experience. More evidence on morbidity can be found in population data.

3.9 Population Morbidity Experience

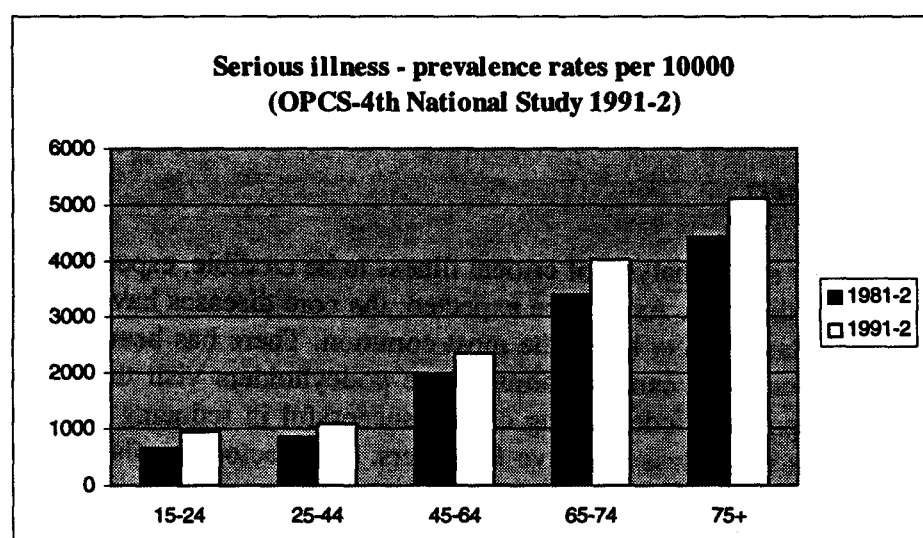
The fourth national study of morbidity statistics from General Practice was carried out during the period 1991-2 by the Royal College of General Practitioners, the OPCS and the Department of Health. It compares its findings with the results from the third study, carried out in 1981-2. Amongst the objectives is to examine the pattern of disease seen by GPs, by age, sex and socio-economic status of the patient.

Using the study it is possible to compare the changes in prevalence between 1981-2 and 1991-2 where prevalence, in the study, is defined as the number of persons consulting for a particular illness at least once during the study year. A word of caution relevant here is that the number of patients seen in general practice does not necessarily represent prevalence of disease in the total community. However for serious, or intermediate diseases it is probably very reasonable to compare the two sets of results.

Serious illnesses are defined as those which invariably require surgical intervention and those which carry a high probability of serious complications or significant recurring disability.

Intermediate illnesses are those which though not often serious are usually brought to the attention of the general practitioner. As an example of the distinction between the two categories, malignant neoplasms would be classified as 'serious' whereas benign neoplasms would be classified as 'intermediate'.

The following graph shows the two sets of results, for illnesses defined as serious.



The prevalence rate for serious illness for each age band has increased. This increase between the two studies varies between 15% and 44% depending on the age band.

For intermediate illnesses the rates have also increased, by 14% to 20% depending on age.

3.10 Examples of Trends for Specific Illnesses

It is interesting to compare the trends of prevalence and, where available, incidence rates, between these two studies for specific diseases which are included in products such as critical illness.

3.10.1 Cancer

Consulting rates for all neoplasms increased significantly over the period between the two studies. For all cancers classified in the serious illness category, the prevalence rate increased from 68 to 86 per 10,000 persons. The pattern of increase occurred among all age groups and both sexes.

Some cancers have become less common. For example, the prevalence of respiratory cancers for lives under age 75 has declined by 25% for men, but for women the rates are virtually unchanged. Among men aged 45 to 64 the first incidence rate in the 1991-2 survey, meaning the first time the patient has ever consulted a doctor about the illness, was 75% of that in the 1981-2 survey. These figures appear to reflect the effects of the changing pattern of smoking.

3.10.2 Cerebrovascular Disease

Over the ten year period, prevalence rates of cerebrovascular disease have risen in similar proportions for both men and women, increasing from 40 per 10,000 persons to 66 per 10,000. Over the same time frame, incidence rates have declined in the UK, although not as significantly as in America and Australia, where healthier lifestyles have acted to reduce the risk of this condition.

3.10.3 Heart Disease

The first incidence rate of acute myocardial infarction (heart attack) fell from 26 per 10,000 to 15 per 10,000. Among people aged 45 to 64 first incidence rates halved between 1981-2 and 1991-2. While prevalence rates for heart attacks declined between the two surveys those for angina increased for both sexes, suggesting that treatment of early symptoms has an effect on the outcome.

3.11 Possible Reasons for the Trends

So why have prevalence rates of some serious illnesses been increasing while mortality rates have been decreasing? The prevalence rate depends on the survival time following initial diagnosis. This can be lengthened by earlier diagnosis or as a result of life extending treatment. If the average survival time increased between the two surveys from four to five years, the consulting rate will increase by one quarter.

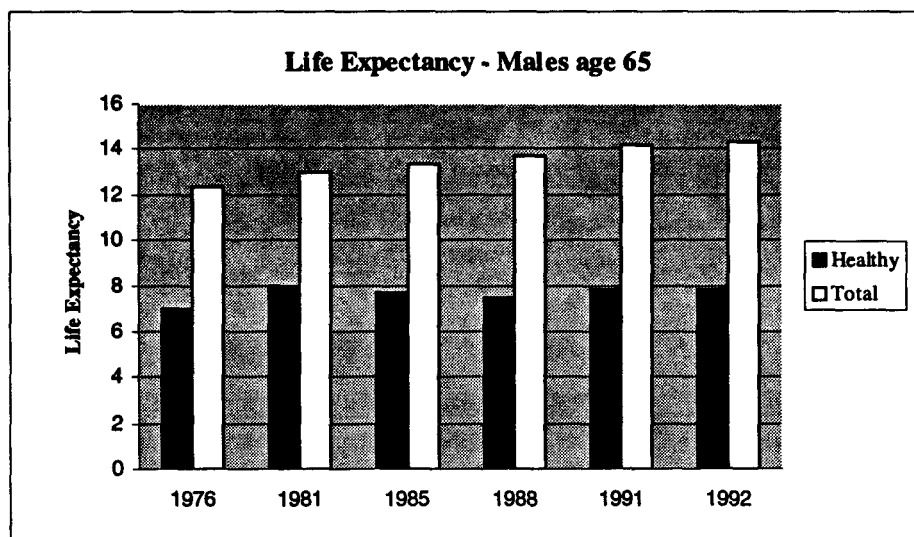
The rate for cancer of the breast is a good example of this, where prevalence rates increased over the period, but the first incidence rate remained the same. This suggests that the chance of developing the disease is unchanged, but the average survival time has increased and death rates reduced.

The trend in incidence rates consists of two components - the underlying natural trend and the trend in the underlying rate of detection. It is likely that continued medical advances have led to detection of some diseases at earlier stages of development. As an example, a high proportion of people have cancer cells in their body which are as yet undetected. Screening programmes act to detect these earlier and hence increase incidence at younger ages, altering the expected experience.

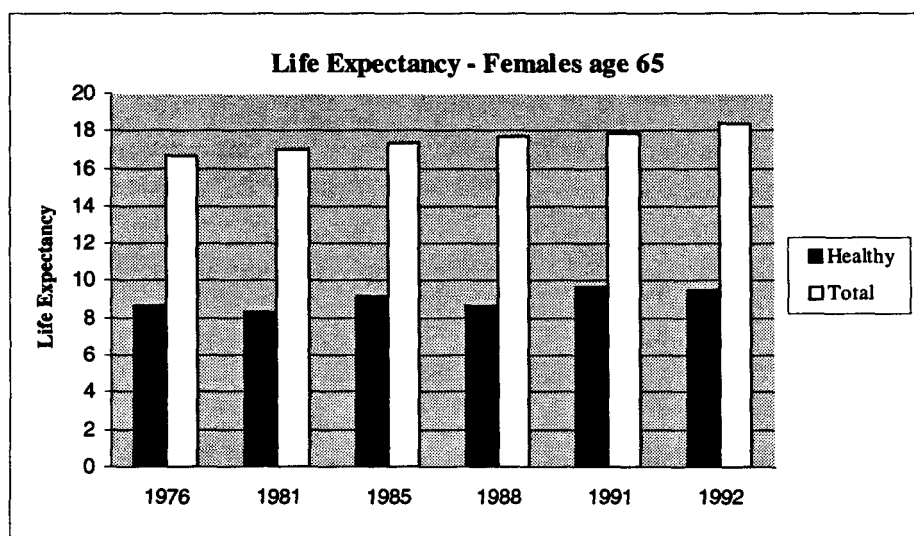
These trends have major implications for pricing of products such as PHI, critical illness and, of course, annuities.

3.12 Healthy Life Expectancy

The following graph illustrates the trends in total life expectancy and healthy life expectancy for England and Wales for men and women at age 65.



In contrast to the steady increases in life expectancy, healthy expectancy for men remained almost constant between 1976 and 1992 at just under 8 years. There has been a small increase for women from around 9 years in 1976 to almost 10 years in 1991-2.



Hence it appears that the extra years of life gained by the elderly are extra years with a disability, not extra years of healthy life. We appear to be living longer, but not necessarily in a healthy state.

3.12.1 The Future Influences

Mortality rates in the UK have been improving fairly dramatically over the recent past with morbidity showing a somewhat different picture. The key questions are whether this rate of mortality improvement will continue into the future and what will happen to morbidity? Many factors could influence the trends.

3.12.1.1 Diet, Smoking and Drinking

There is evidence that the nation's diet and smoking habits are improving. Are these trends likely to continue or are we likely to reach a plateau, or even, in some cases experience a worsening trend?

The trends in alcohol consumption have not been so encouraging. Has this been influenced by the reduction in the real cost of alcohol and the development of cross border trade? Will the increase in the recommended maximum guidelines for sensible drinking encourage individuals to consume more? Could this then lead to an increase in the number of cases of alcohol related disease?

3.12.1.2 Stress

Will work related stress levels increase or decrease into the future? This condition is currently most prevalent at the higher social classes and changes in incidence could well have important consequences for morbidity experience on health insurance policies in the future. An interesting question is whether stress is good or bad for you? Stress is a fact of modern life. The important point is how an individual reacts to that stress. The answer could well be that it is the degree that is important. Some people appear to thrive on a modicum of stress.

3.12.1.3 Immunisation

Programmes to encourage parents to have their children immunised have been very successful and over 90% of children reaching their second birthday in 1993-4 have been immunised against diphtheria, tetanus, polio, whooping cough, measles, mumps and rubella. This should show significant improvements in morbidity experience from these diseases in the future. Recently there have been calls to include vaccines for Hepatitis B in the general immunisation program.

3.12.1.4 Epidemics

Will there be other influences that worsen experience? Will we see illnesses develop of epidemic proportions?

Much has been written about AIDS and whether this illness will grow exponentially. However there have been other illnesses that have caused significant additional mortality. Following the First World War the world experienced an epidemic of influenza which killed over 20 million people, more deaths than in the war itself. While this is unlikely to happen again, due to the improvement in medical care, there was a mild influenza epidemic in the UK early in 1993 which caused mortality rates to rise in that year. The question is whether strains of influenza or another illness develop which are untreatable by current drugs. Will we see bacteria or viruses that are resistant to current treatments? HIV is one example of a virus which was unimaginable twenty years ago.

How many of us had heard of CJD ten years ago? The chance that this disease could reach epidemic proportions is considered to be remote, but the possibility exists.

The incidence of tuberculosis in the UK more than halved from 14,000 in 1971 to just under 6,000 in 1987. Since then the incidence has been rising slowly each year to 6,500 in 1993, causing around 400 deaths. This is one disease where we have seen some development of drug resistant strains, including one responsible for an outbreak in St Thomas' Hospital, London. The situation is significantly worse abroad and the World Health Organisation declared a global emergency to attract attention to the disease, which is expected to kill 3 million people per year over the next 10 years.

Environmental changes could be very important to future trends. Hard winters increase death rates amongst the elderly. What will be the effect of changes to the ozone layer? Will there be significant accidents, nuclear or pollutant, which could cause a large increase in mortality or morbidity rates?

Will there be more wars?

The list could be extended further. The purpose of this section is to show that future influences may not always be positive.

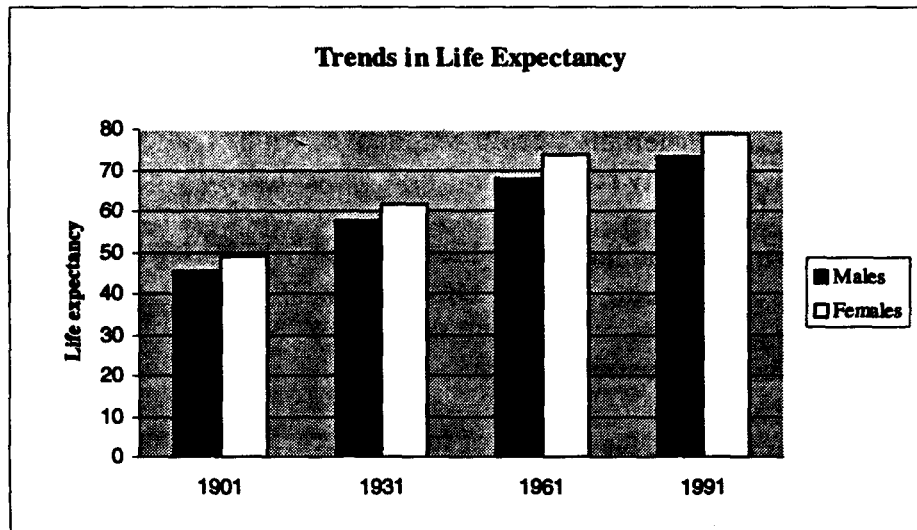
3.12.2 Life Expectancy

Generally it is likely that improvements in medical science and health education will continue to mean that we will keep on living longer. When predicting trends for the future a cautionary note should be sounded and stored in the back of our minds, certainly when the subject of guarantees on insurance policies is mentioned.

3.13 Predicting Trends in Population Mortality and Morbidity

3.13.1 Mortality

Consider the trend in life expectancy at birth experienced during the twentieth century.



Since the beginning of the century life expectancy has risen by over half and is currently rising at the rate of around 2 years every decade. Can this trend continue? If it does then by the year 2100 life expectancy at birth could be 95 years and by 2300, 135 years. These figures look rather absurd to us today, but in 1901, when life expectancy was under 50 would actuaries have believed it could be as much as 75 years by 1996?

The above extrapolation is clearly very crude and made in a very non actuarial manner. Rather like the 100 metres world record in athletics which must have a lower limit, surely life expectancy must have a maximum bound. However, behind the 'tongue in cheek' figures quoted above there is a serious and relevant point. Can the past improvements in mortality continue for the foreseeable future, or will the rate of improvement slow down so that life expectancy will reach that limiting figure?

Part of the answer must be found in the realms of medical science. If cures for illnesses such as cancer are found then perhaps the figures shown above are not as ridiculous as they first appear.

On a more serious note, and relevant to some of the ideas discussed later in this paper, is it reasonable for pricing actuaries to allow for future improvements in mortality, and at what rate?

3.13.2 Morbidity

It has been shown above that while mortality in general has been improving this is not the case for morbidity. Indeed PHI experience in the recent past has been worse than expected, indicating insured experience has followed the population as a whole.

If this trend continues into the future then there are clear implications for the health insurance industry. Whereas actuaries have projected improvements in mortality for life products, should they also project worsening morbidity for some health products?

Uncertainty about the way people will work in future adds to the complex picture. The further growth of technology could put increased pressure and stress on the working population, or possibly the reverse - the much heralded increase in leisure time, which so far has not seemed to materialise, could well arrive. What effect will either of these possibilities have on morbidity rates?

The evidence shown above is that while life expectancy at 65 has increased, healthy life expectancy has not. Pricing of long term healthcare is already uncertain. There have been calls for guarantees on premium rates. How 'safe' will it be to do this and what would be a prudent valuation reserve?

As may have been expected, the subject of future morbidity is a much more complex topic than mortality. Projections into the future are likely to be much more difficult and the uncertainty surrounding these projections very great.

4. External Influences on the Industry

'However certain our expectation the moment foreseen may be unexpected when it arrives'
T S Elliot

4.1 Regulation and Political Change

The last 10 to 15 years has seen a complete change in the conditions governing the distribution of long term life assurance.

4.1.1 Removal of Life Assurance Premium Relief

One of the first major influences was the abolition of Life Assurance Premium Relief (LAPR) for new business sold after 13 March 1984. Up to this point life assurance products were heavily oriented to savings. The influence of tax relief at 50% of the basic rate meant that the life industry had a distinct advantage in attracting regular contribution savings plans in all sectors of the market. The whole marketplace, from Home Service industrial products to sophisticated IFA plans benefited from LAPR. With high nominal investment returns (combined with high inflation, which was conveniently ignored) projections were made of estimated maturity values at growth rates of 12% p.a., or higher. These high figures combined with LAPR were extremely attractive to the market. With such a comfortable market the life assurance industry had no need to sell protection business in a big way, the sales message of high returns combined with tax relief enabled margins to the industry to remain at a high level.

4.1.2 Financial Services Act

When Nigel Lawson abolished LAPR the initial reaction of the life assurance industry was to continue on the same course arguing that the products still remained good value. In the late 1980s the introduction of the Financial Services Act (FSA) was to bring major problems to the industry.

Rather like the reaction to the loss of LAPR the industry's initial reaction to FSA was to assume it would not be difficult to work with and things would continue as before. How wrong could the industry have been? The gradual changes introduced resulted in lower projections of maturity proceeds and substantial disclosure of the cleverly hidden margins in the savings products, together with detailed disclosure of commission payments.

4.1.3 Other Changes

At the same time the Government's commitment to a 'level playing field' appeared to result in a distinctly uneven pitch as far as the life assurance industry was concerned. PEPs and TESSAs resulted in tax advantaged products for the other savings providers who began to design regular contribution plans to compete with traditional life assurance endowments. Life offices also entered the PEP market, but margins were substantially reduced.

Although the individual pensions market remained buoyant, retaining its tax relief advantage, the resulting 'Pensions Scandal' produced further gloom.

Recently one further avenue has been cut off with the Inland Revenue closing off the reinsurance of excess 'E', reducing the returns widely available on Guaranteed Bond products.

Past changes in regulation have therefore made the industry much less competitive in the investment world. The protection market is an area that companies are turning to in greater numbers.

4.1.4 Future Regulation and Political Change

Regulation for the life assurance industry is constantly changing and there is no reason to suppose the pace of change will slow down. If there is a change of government in 1997 this could mean more changes in the regulation of the industry. Extension of further regulation in the protection market cannot be ruled out, but this remains a unique selling point for the life assurance industry. But news is not all bad. Political and economic influences will mean that the government will probably need to look for partnerships with the life assurance industry to provide protection for the UK population.

4.2 Influences on Risk Selection

4.2.1 The Story So Far

The subject of risk selection in the UK life assurance industry has taken many turns over the centuries that the industry has been in existence. In the earliest days there was little or no underwriting but gradually over the years life offices became more and more expert in selecting the risks that were taken on.

The art of life underwriting has become very sophisticated and, until the early 1980s, a life office was able to underwrite risks in whichever way it deemed appropriate, routinely using proposals, private medical attendant reports, and medical examinations. For larger risks more sophisticated medical tests have been obtained.

The form of the questions and the actual decisions made, be it a rating or declinature, were not likely to be questioned. As Spencer Leigh wrote in his paper 'The Freedom to Underwrite' presented to SIAS in January 1996 'Forty years ago... the general public paid no attention to life underwriting. This was true until the mid 1980s but since the advent of AIDS, life underwriters have come increasingly under the spotlight'.

Although most of the infrastructure of medical evidence is still with us and is used routinely, some restrictions have begun to be seen in the actions that underwriters can take to assess the risk.

4.2.2 AIDS

When the new illness named AIDS was recognised there was much serious discussion within the life assurance industry as to its likely effects. The Institute of Actuaries set up an AIDS working group who made various projections of the likely effects on the assured life experience. Following its first report the Government Actuary recommended a minimum valuation basis, based on 'projection F' of the report, to life offices to provide for likely additional claims.

Experience to date has been significantly lower than was originally expected and the reasons are of course many and complex. Generally, UK population experience has been lower than predicted. The Government Actuary, in his letter to Appointed Actuaries dated 29 October 1996 has further reduced his minimum recommended reserving basis for AIDS. Many of the lives within the defined risk groups likely to die from AIDS, such as intravenous drug users, are not normally part of the assured life population. However credit should also be given to our life underwriters in their risk selection methods which have protected life office experience.

One of the first threats to underwriters has been on the subject of AIDS where they have been forced to modify the original questions asked. The advent of pressure groups publicising and questioning the role of the underwriter within a life office has begun with AIDS and is likely to spread further in the future.

4.2.3 Disability Discrimination Act

The Disability Discrimination Act received Royal Assent on 8 November 1995 and the Regulations covering insurance - the Disability Discrimination (Services and Premises) Regulations 1996 - were laid before Parliament on 18 July 1996. The regulations came into force on 2 December 1996 and new insurance business must now comply with the new law.

To impose special terms or rates in response to a proposal from a 'disabled person' the underwriter must be confident that their decision is based upon data relevant to the assessment of the risk to be insured. This data must come from a source on which it is reasonable to rely.

The art of life underwriting may well be turning into a science with statistical data being required to back all decisions. For many diseases this data is, of course, well developed but for others the underwriters' intuition has always been an important element of the rating process. The current method of risk selection is therefore likely to be adapted to comply with the new legislation. It is early days in the implementation of the Act. Will the effects be as significant as are currently feared?

4.2.4 Genetic Testing

At the moment genetic tests are predominantly used as either a diagnostic tool in those who have disease or those who are pre-symptomatic.

The difficulty will come when tests which purport to show a 'pre-disposition' or possibility of contracting disease become widely available. If the life assurance industry is prohibited from knowing the results of such tests then not only does this break the 'utmost good faith' principle on which insurance is based, but it could have a substantial influence on the way the public buys insurance.

Anyone fortunate enough to possess the longevity gene will surely consider buying a lifetime annuity. And anybody with the gene for Alzheimer's Disease will think seriously about applying for long term healthcare insurance. In both these instances the probability is that individuals may have little more to avoid than the risk of accident to obtain full benefit from their policies. Although the bias will be greater for health and disability products, it could certainly alter the timing and amount of life cover purchased.

Furthermore, it could be many years before the multi-factorial influences on some of these test results become apparent, and hence make these tests truly predictive. Some medical reviews have shown that the availability of this information does not always have a positive effect on the individual.

Another problem, perhaps even more important, is what may eventually become termed as 'genetic information'. Certain European countries have included family history; height is also genetically influenced along with cholesterol. The Appendix details the position at the time of writing on the use of genetic information with insurance in Australia, Belgium, the Netherlands, France and the UK, illustrating possible approaches which may be agreed.

The ethical dilemma even with diagnostic testing is that for many disease processes there is no treatment or cure. An early diagnosis is therefore not helpful to the sufferer and may be quite harmful to the mental well being of that individual. The same may prove true for 'pre-disposition' tests in years to come. Even positive adaptation of lifestyle and behaviour will then not be beneficial.

4.3 Technology

Technological change will continue at great pace. This could affect both the sales methods to the consumers and the way the industry can administer its business.

4.3.1 New Entrants

New organisations are entering the industry. Life assurance companies now include names previously unheard of in our market such as Marks and Spencer and Virgin. Undoubtedly technological change is much easier for these companies to use to their advantage than the more traditional life offices who have their ageing administration systems as baggage to carry into the future.

4.3.2 New Systems

New technology will enable life offices to improve their point of sales systems and in-house administration systems. This should enable offices to improve their flexibility in product design, giving the opportunity to tailor products more individually to meet the exact requirements of the buyer in terms of features and cost.

5. Products and Markets to Meet the Changing Needs

'The times are changing, and we are changing in them'

John Owen

5.1 The Protection Needs of the Individual

The aim of this chapter is to consider possible avenues which an office may explore to meet some of the influences discussed in the earlier chapters. It identifies the protection needs of the individual, and for simplicity, concentrates on whether these needs can be met by an individual policy. However, there is no reason why similar solutions cannot be found by inclusion within a group arrangement.

5.2 Today's Product Design and Marketplace

Before looking forwards it is worth a quick look backwards at some of the past influences and developments in the marketplace. Two specific examples are considered.

5.2.1 Term Assurance

Consider the simple term product, providing sum assured on death within a specified time frame. For many years this product was extremely straightforward reflecting, perhaps, an unchanging world with low inflation and the long term outlook of both the life assurance industry and the general public. The product was aimed at the traditional family man in order to provide for the stable family over a long period.

In the late 1970s and early 1980s the impact of high inflation, combined with the general climate of product innovation, saw the introduction of the renewable, increaseable, convertible term product. Suddenly a very simple plan became fairly complex in order to meet the perceived needs of the public. Did the public appreciate the various options on this complex plan?

The innovation on term assurance products was brought to a fairly abrupt end with the advent of AIDS. Suddenly actuaries became extremely concerned about the anti-selection effects of these new features. What had seemed a low risk was suddenly perceived as a possible future disaster. The new products were withdrawn from sale and prices of the simple plans rose substantially. It is only recently that actuaries have admitted that the predicted adverse experience in relation to AIDS is unlikely to occur.

5.2.2 Permanent Health Insurance

We have seen another basically 'simple' product concept, permanent health insurance,

produce some extremely poor experience. Here some of the future external influences were not foreseen when the products were launched. The socio-economic climate of the last decade has resulted in increasing incidence of claim and reduced recovery rates. Economic factors influence incidence patterns, with individuals more likely to claim when genuinely ill if their business is failing. Perhaps falling recovery rates have been due to increasing unemployment. Claimants may then treat the definition of disability as 'availability of work' rather than 'ability to work'.

Medical advances combined with increased prevalence of morbidity have also contributed to the increased length of claims as policyholders remain alive for a longer period. Nearly all life offices have reacted to these events by increasing rates and removing the long term premium guarantee from these plans, making rates reviewable.

These two examples show that market conditions can change rapidly as a result of external influences that cannot be foreseen when products are designed. What can we learn from history?

It is impossible for actuaries to foretell the future but we need to be able to allow for the possibility that conditions may worsen, or not improve as much as predicted. On the other hand we must try to give the public what they need and want rather than what actuaries and life offices want to sell them.

5.3 Factors Influencing Tomorrow's Product Design

5.3.1 The New Markets

New products should be tailored to meet the needs of the new markets. In this context the current UK market is very different compared with 20 years ago:

- Families are much less close knit
- There are more single parent families
- Women play a more active economic role
- The days of a 'job for life' are gone
- There is much more part time employment
- The population is ageing
- The welfare state is struggling to cope with the increased demand

What does this mean for tomorrow's product design?

5.3.2 Flexibility

To fit in with these influences the challenge will be to ensure products are flexible. People's situations are increasingly unlikely to follow the classical 'life path' of birth,

work, marriage, children, retirement, death. Married women may not give up work to have children and then stay at home. Generally women are becoming far more independent than would have been usual or acceptable 20, or even 10, years ago.

The emphasis is moving towards the needs of the individual and away from the traditional needs of the family. The short term outlook of the public is not an illusion. Rapidly changing circumstances mean that changes in the nature of personal protection are required throughout life.

A truly flexible product would enable a policyholder to mix and match from a menu of various healthcare, disability and life assurance protection benefits as their personal circumstances change. In classical life assurance 'parlance' this would mean including options to change the products to meet the needs, with more comprehensive options than seen today. For example, products could be underwritten at outset to permit changes between PHI, critical illness and life assurance. This type of product could be appropriate for a single man who initially needs living benefits, but later requires life cover to protect his family and cannot afford to purchase extra protection.

For women, can we allow products to have a premium holiday and then continue after career breaks without further underwriting? Can the same be applied for others who have temporary periods of unemployment? More generally, can premiums be fully flexible, with recurrent single premiums being used for protection benefits?

There are a myriad of ideas that could be applied, the challenge being to marry the flexibility with the possibility. A key question is whether the introduction of flexibility introduces greater anti-selection, or, if the flexibility becomes widely available, will anti-selection become more a worry in the actuary's mind than a reality? Flexible products could also go a long way towards reducing lapse rates and improving policy persistency. Will more 'pay as you go' annually renewable policies be seen and traditional level premium policies become much less commonplace?

Improvements in technology should enable an office's administration systems to keep up with the flexibility requirements of the products designers.

5.3.3 *Simplicity*

In the past, attempts at designing flexible products have resulted in complexity, both in actuarial matters, such as charging structures, and in presentation. To compete in today's consumer driven marketplace a clear message must be given and even if the underlying protection products being designed are actuarially complex it is the actuary's job, in conjunction with the marketing department, to present the product as simply as possible. The KISS principle must be followed (Keep It Simple Stupid.).

Critical illness product sales have increased substantially following a standardisation of the core benefit definitions. Could the same process be applied to permanent health insurance and total and permanent disability protection to produce a similar effect?

In the 1980s the fashion was to design 'bundled' products whereas the 1990s have seen a change to 'unbundling'. To design products that customers can understand and want to buy, will require lateral thinking by product designers. But products which are complex to present will not sell.

There have already been moves to introduce simplified underwriting processes. The jury is still out on claims experience, but the effect on sales volumes has been beneficial. Can this principle be extended?

5.3.4 Affordability

In all walks of life consumers want the best product at the cheapest price. The world of personal protection is no exception. While improvements in mortality experience have meant that prices have reduced for life assurance plans, the changes in morbidity experience means just the opposite for some health products.

A flexible 'all singing and dancing' product is an excellent idea, but no use at all if most people in the market place cannot afford to buy it.

Different products are required for different market segments. It is better to sell a plan such as 'budget' PHI, with benefits payable for a limited period, which will fulfil some of the need rather than generate no sale and hence provide no protection. For some high risk groups for health assurance a budget plan may be the only product that they can afford, and indeed that the life office can make profitable.

As another example, selling a reduced level of benefit covering only mortgage interest payments with a PHI style plan must be better than selling no plan at all. Is there scope for this market to be expanded?

5.3.5 Value for Money

5.3.5.1 Added Value

Affordability does not always mean cheap. With intense competition in the marketplace life offices have had to accept lower margins. On protection products in particular profitability is under threat. The challenge of profitable distribution is explored more fully in the next chapter but the concept of value for money is about perception from the consumer.

Consider an example from another industry. Car manufacturers are rumoured to make more money from the extras that are add-ons, for example metallic paint and sun roofs than the actual base product itself. How can we learn from this? Perhaps we have already begun the process. Buy a household insurance plan and you will become eligible for help with, inter alia, emergency services and legal aid. On the health side if you buy a PHI plan and claim you may be visited by a care counsellor. Although

promoted as a benefit these services are often ways for the insurance company to keep claims costs down.

Is there anything further we can do to promote the new protection plans we wish to sell?

Some possible ideas include the following:-

<i>Helplines:</i>	Suitably qualified staff to offer advice on general matters.
<i>Bereavement Counselling:</i>	Could be a valuable service at a stressful time.
<i>Care Counselling:</i>	Already being used in the long term healthcare market, but perhaps could be further extended in PHI in a more positive way.
<i>Advice on state benefits:</i>	Could become more important as benefits become more complex.

The challenge to the life offices is to offer add-on services that would be perceived as attractive, offering value for money, while increasing profitability for the life office. What further ideas could be added?

5.3.5.2 Guarantees

While on the subject of value for money the thorny issue of guarantees should be discussed.

Do policyholders value the guarantees on protection policies? Naturally policyholders would like to know their premiums will not increase, but given the trends discussed above, especially in morbidity, will they prefer a guarantee or a cheaper price? Will they see the guarantee as value for money? This could well depend on the prospective policyholder group.

Older people buying long term healthcare are much more interested in a guaranteed product. They may not have the prospect of a rising income in the future, whereas younger lives buying protection plans may not be as worried, their future salary prospects being a cushion against rising prices. For this latter group a prohibitive guarantee cost could be enough to ruin a sale, whereas for the former group adding guarantees to long term healthcare at 'reasonable' cost could enhance sales.

5.3.6 Specific Products for the Elderly

5.3.6.1 The Market

The demographic 'time bomb' is closer to exploding than ever before. The number of

old people in the UK population will be increasing over the coming years. Traditionally offices have aimed their marketing for protection plans at the younger lives in the population. The young married man with small children has been the classic target. Naturally this section of the population must remain very important and life offices must still try to obtain customers at a young age in order to further their sales of investment and pension products.

The older section of the population have traditionally been seen as providing a market opportunity for investment products and little consideration has been given to their protection needs. With an increasing proportion of the population becoming older, and probably wealthier, this market should not be ignored. Protection needs such as long term healthcare are perhaps the most obvious but there are other needs at older ages. General healthcare is a major concern of older lives and products such as private medical insurance have not always been available, or if they are available have been very expensive. Another product already marketed is life cover for estate planning. This could become even more necessary if inheritance tax rates are raised by a future Labour government.

Covers could be arranged during middle age and continue throughout life. The idea that long term healthcare is 'Geriatric PHI' has been discussed in some quarters. Could we design an affordable, attractive PHI product that provides income for long term healthcare after age 65? Will this fit in with the concept of flexible products required to meet the changing needs of those with a short term outlook?

How will equity release fit into these ideas? Life offices can see equity release as a way of unlocking capital to pay premiums on protection plans. This idea is not without its problems. Equity release is not an easy sale. The time and effort required to complete such sales make it an expensive process. This is not usually compatible with selling protection plans. Perhaps equity release is not the answer for all products, although it could play a major role in the area of long term healthcare.

5.3.6.2 Underwriting and Pricing

If offices do begin to enter the old age protection marketplace then expertise will be required both in underwriting and pricing.

On the underwriting side the prospect of a clean proposal at advanced ages is very low. 'Standard' health at advanced age is likely to include many ailments. The mortality tables naturally include these ailments when standard mortality is analysed. At these older ages the underwriter and the actuary will have to work very closely to ensure profitability. Salesmen would have to understand and accept a longer underwriting process.

Life offices in the USA, and to a lesser extent those in Canada, have traditionally written larger volumes of life assurance protection business on older lives than companies in the UK, many of these policies being arranged with estate planning in mind.

The statistics in section 3.4.3 show that with careful underwriting there is no need to be wary of writing protection products for older lives and there is scope for innovative product design in this growing marketplace.

5.3.6.3 Annuities

An example of innovative product design already seen is in the area of annuity business, protection against living too long. A Friendly Society has been established specifically to write substandard annuities. Another company has launched a product with enhanced annuity rates for smokers, followed by extensions into other impairments such as obesity.

The first 'immediate needs' annuities designed to pay for long term healthcare have also been marketed and this area is likely to expand shortly.

Actuaries need to learn new techniques to price these annuities correctly and, of course, the higher the market penetration of the new products the more expensive annuities become for 'ordinary' lives.

5.4 External Influences on the Market

5.4.1 Reduction in State Support

At first sight it appears that any reduction in state support for the individual will be an opportunity for the life assurance industry. However many life offices position themselves in the 'higher' sectors of the market where they perceive the profitable business to be. The commonly held belief is that the lower reaches of the market are expensive to service, given the level of premiums and benefits written.

There are providers who are current specialists in this market, namely friendly societies and the industrial branch companies. For these organisations products which are designed to integrate with state benefits will become more attractive if state support reduces. The range of life offices willing to service this market could increase.

Permanent health insurance plans providing cover from the first few days absence from work are still mainly sold by friendly societies and fulfil a real need in this market. 'Budget' plans for private medical insurance have also been designed to cover the perceived contraction in the NHS.

Long term healthcare and the 'Partnership Scheme' concept discussed in 1996 is a good example of possible opportunities for future product design.

The reduction in state help for mortgage payers who are made redundant is a further example where the Government looked to the (non life) insurance industry to complement state support.

As the Government attempts to balance its books it will appreciate help from the private sector, always provided the products designed are sold correctly and offer good value for money.

5.4.2 Medical Advances

The rapidly changing medical scene has many implications for product design, particularly for health products. Surgical techniques are constantly changing. The creation of keyhole surgery, for example, enables certain surgical procedures which previously required several days in-patient treatment, to be carried out as day surgery with a much shorter recovery period.

The continuation of such advances could have major implications for products such as critical illness. Current plans have been extended from the original 'dread disease' products, where the intention was to cover the onset of a limited number of serious conditions. If the definitions of the critical illnesses now covered are guaranteed in the product then improvements in screening procedures could result in more people being diagnosed with a defined critical illness. Even though the prevalence of the disease will not have changed, there will be an adverse effect on claims. Implications for the product design, especially on guaranteed rated products are clear and worrying to the actuary.

Product design could alter in future as the different diseases change in the way they are perceived. The introduction of 'graded' sums assured could be a solution. For some of the current surgical procedures covered should, say, 10% of sum assured be paid on satisfying the definition rather than the full 100%?

Should new products be designed with the right to review the definitions of illnesses covered, provided medical evidence is sufficient to justify the change? This idea is unlikely to be a good sales point - but what are the pricing implications if this route is not followed?

The future will bring many changes not yet envisaged. Should we be designing new products with future (unknown) medical advances in mind? How could this be done?

5.4.3 Genetic Testing

Perhaps it is too early to know how the influence of genetic testing will affect product design.

Individuals prone to Huntingdon's Chorea, for example, are already being advised to take out protection products (loaded for the potential extra risk) before undergoing a genetic test. Policies can then be cancelled and replaced with a plan on ordinary rates if the test is found to be negative. Cover is safely in place if results are positive.

The preferred life concept has been introduced into the UK with limited success to date. If (and this is a big if) genetic testing becomes very common, predictive in its results and acceptable to both the general public and life offices, then it is possible that the preferred life concept could be extended much further. Mortality and morbidity pricing would be based on an accident risk followed by various additions for different categories of risk. Risk factors could be as narrow as those used in motor insurance policies.

5.4.3.1 Life Assurance

If the life assurance industry cannot use genetic information which has been made available to a prospective policyholder, and this is combined with a wide availability of testing, we may see products designed to be (almost) available to all regardless of state of health. This would effectively be the complete opposite of the preferred life concept. Provided these products become the only products available then perhaps there is less to fear for life offices than they may have thought originally. The population is still living longer (whatever genetic information is available) and will still need life assurance. The cost of life assurance may rise slightly but there could be increased sales as a result of easier availability and fewer underwriting requirements.

Is it true that policyholders can be put off by underwriting and that the fewer the underwriting requirements the easier the sale becomes? A widely available product could be more of a sales success than the preferred life product which may deter those prospective policyholders who do not qualify for the best discounts.

5.4.3.2 Annuities

If you are shown to have the longevity gene this could be a great buy!

5.4.3.3 Health Insurance

It is in the area of health insurance that the input of predictive genetic tests could be greatest and the most concerning threat.

The impact that medical advances may make to critical illness insurance has been discussed but advances in the area of predictive genetic testing could have serious problems for these products. Most plans have guaranteed sums assured and benefit definitions and some also have guaranteed premium rates. Here the anti-selection risk could be at its greatest.

If predisposition to certain illnesses is shown by genetic testing then it is possible that medical care will be given in advance (and possibly for longer) than it would have done if the genetic test had not been available. A sensible course of action for anyone

would be to effect a PHI policy and/or a medical expense policy once the test results were known. If the insurer had no access to the test results the implications to the industry are clear.

5.4.3.4 Long Term Healthcare

Long term healthcare policies could be particularly exposed to those who know they have a likelihood of contracting disabling conditions such as Alzheimer's disease.

If insurers cannot price such risks on an individual basis, using the test results, then the anti-selection risk could be so high that premium rates may soar and therefore availability of cover may be threatened for the public as a whole.

In the ideal world, if the predictive test is available early enough before the onset of the disease, there would be sufficient time to fund a long term healthcare policy. This would be the case even at a higher premium rate loaded for the genetic evidence of the individual involved.

5.4.4 Disability Discrimination Act

Rather like genetics, the new Act could have significant effects on the way products are designed, but these effects are not yet clear.

Underwriters may well face challenges to their decisions, either from specific individuals or from interested pressure groups backing such individuals. In many cases data will be available to justify decisions, but in some cases this will not be the situation. The intuition of the underwriter will not be sufficient reason for a rating or declination on a life policy. With the onus on the individual to provide statistics to back up their dispute, how likely is it that they, or their pressure group, have access to appropriate data when the underwriter does not?

Like one of the scenarios for genetic testing shown above we may be led down the route of less underwriting and more guaranteed acceptance on life assurance. This will lead to an increase in the cost of cover, with a resultant increase in under insurance as fewer individuals are willing or able to afford to purchase cover.

In excess of 90% of life products written today are accepted at standard rates. The percentage is not so high for health plans. It could therefore be on these products where we see the main impact. Will these percentages be forced downwards?

6. Distributing the New Products

'Everyone lives by selling something'

Laurence Sterne

6.1 Can We Afford to Distribute the New Risk Products?

Previous chapters have analysed the changing world and made some suggestions about the type of products that could fit within it. However if the life offices cannot afford the distribution costs of the new products the 'theory' may never become practice. This chapter analyses current distribution channels and suggests some possibilities for the future.

6.2 Cost of Advice

The buying public will generally need to be advised on how products will fulfil their needs. Even the direct distributors, selling by telephone, have already found that giving advice is a lengthy process and takes time. Those who have tried to follow the execution only route have found that advice is required in many circumstances.

The cost of providing advice is not insignificant and must be recovered from the buyer in some way, either in the form of commission or fees paid to the adviser, or by higher expense loadings for products sold directly. This cost is prohibitive for many providers, especially those targeting smaller premium business, and ultimately could damage their business.

6.3 The Unique Selling Point

The industry has experienced a rather gloomy time over the last 10 to 15 years. It has perhaps reluctantly realised it does have one unique selling point. It can provide life, and other long term protection covers to the population as a whole.

However the days of substantial margins for expenses and profit have gone and the margins available from today's risk products are much lower. The challenge to the industry is therefore not only to sell the business but also to make it profitable by selling efficiently. Which distribution system can it use to sell protection business?

6.4 Distribution for Traditional Life Offices

Later in this chapter the distribution for bancassurers, friendly societies and the new 'direct' companies is addressed. The traditional life office, distributing its products through Independent Financial Advisers (IFAs), Direct Sales Forces (DSFs) or Tied Agents is considered first.

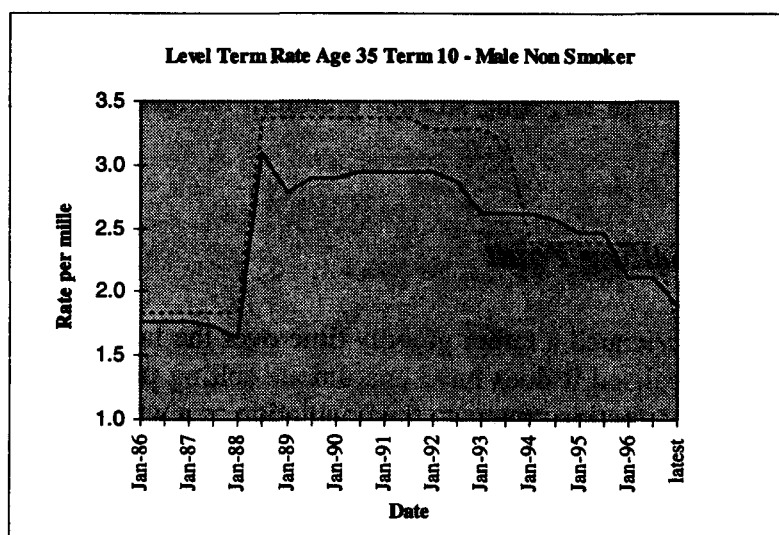
There are different sectors of the market that can be targeted by any of the above distribution channels. Although IFA offices have perhaps traditionally targeted the 'upper echelons' of society some DSF offices would also consider that they are aiming for this sector. All consumers are cost conscious in today's market place. Have the days when a DSF company can almost ignore its competitive position gone?

6.4.1 Competition

Competition between life offices in the protection market has been intensifying over recent years. As an example, consider the term assurance market.

There are a range of term products available - preferred lives, annually renewable and traditional. Life companies have been competing ferociously in this market where rates have plummeted over the last 3 years. This competition has at first sight been exceptionally good news for the salesmen and their customers, but what of the life offices?

Consider the following which has been provided by two large leading term assurance players selling in the IFA market. The graph shows the term rates that have been charged by the two companies over the last ten years.



Term assurance rates are now at the level charged before increases were made to reflect the then perceived AIDS risk. With mortality improvements over the last 10 years, it is not unreasonable for premium rates to fall to 1988 levels. However, margins were tight then, commission levels have increased and are offices generally any more efficient? Are margins available for the life offices therefore minimal?

6.4.2 Comparison with Other Industries

It is interesting to consider why such a price war has been happening in this market and to draw a comparison with other industries. The term assurance product incorporates the industry's unique selling point yet the industry has been competing to drive the price, and available margins, as low as possible.

Further analysis reveals that it appears to be the large writers of term assurances driving the price down, perhaps using marginal costing. In other industries (consider price wars in the airline industry for example), this process results in the smaller operators being driven from the industry leaving the larger players, who then increase prices when the market is clearer for them. Is this an intentional strategy from today's market leaders or would this view be rather cynical for our industry?

6.5 The Future

The future for risk business sold looks bright in terms of products available if life assurers can maintain profitability. It may not be possible to rely on future improvements in mortality, and particularly morbidity, to do this.

6.5.1 Long Term Healthcare

Long term healthcare will become a more saleable product as the government attempts to solve the problems of the ageing population. As with general healthcare products the expertise required to sell the products will be difficult to acquire and those that do so could reap the rewards. Equity release schemes to help pay for the premiums will become vital, but this will mean a long drawn out sales process. The challenge will be to ensure that the specialist salesman needed for this market is adequately rewarded in what could become a very sensitive area. Mis-selling should be avoided at all costs.

6.5.2 Preferred Lives

If the result of the debate on genetic testing allows and the market does move to preferred life products, then perhaps the IFA market is where these products will be sold in greatest volumes. The analysis of the market and which preferred product is best for each individual policyholder could become a difficult job, the expertise of the IFA becoming vital.

6.5.3 The Flexible Product

The previous chapter gives a vision of the ultimately flexible product, presented simply even if its underlying construction is complex. It would seem that this type of 'plan for life' could be ideal for the new market. However such a plan could have

some hidden dangers for the salesman. The opportunity for future sales (and further initial commissions) could be much reduced if all future risk needs were covered in one plan. However the good salesman should not be worried about this. Perhaps such a plan could be designed with level commission, as opposed to high initial and low renewal commission? As yet this design has not proved popular (or practical) with salesmen but perhaps things will change?

If the customer is satisfied on his protection needs then the salesman will still have the opportunity to cross sell investment products.

6.5.4 Employer Sponsored

Although this paper does not consider the corporate marketplace there may well be opportunities through connections with employers, to sell to the employees either in or through the workplace. Premiums for such plans could be collected by salary deduction.

6.5.5 Budget Plans

There may be an extension of the range of products sold. For the new type of products suggested it would seem that plans designed on the 'budget' basis could be appropriate. Simple products, easy to explain, should be easier to sell and hence more profitable for the salesmen and the life office.

6.5.6 Integrated Plans

Plans integrated with the state benefit system could also be appropriate for traditional distribution systems, given the target market usually serviced. The knowledge of state benefits (and the ways that they are changing) could become a specialist area for many salesmen and one that could become very profitable for those with the expertise to service the market.

6.6 Bancassurers

6.6.1 Cost Base

With its bank (or building society) branch network the bancassurer has a ready made distribution channel which should provide a low cost method of distribution with a very 'warm' client database. Although success of the bancassurers so far has varied greatly between companies, the low expenses of distribution should give bancassurers an advantage in selling all products, including protection business.

6.6.2 Mortgages

To date the main impact the bancassurers have made in the personal protection market is in the area of mortgages. The past few years has seen a move by many bancassurers from mortgage endowment to mortgage protection plans. Adding critical illness benefit as an option is now very popular, with high take up rates. Waiver of mortgage repayments and redundancy cover also provide a valuable addition to this product.

Bancassurers are extremely keen not to upset their customers who have associated bank accounts. Therefore it is essential that premium rates they charge, especially for mortgage protection business, must be reasonable in the market. The bancassurer's challenge is to take advantage of their low cost distribution channel.

6.6.3 Critical Illness

Critical illness has been embraced by the bancassurers and is now a mainstream product. The products generally do not incorporate the myriad of illnesses required in the IFA market. The companies concentrate on making the products simple, affordable and understandable for their customers.

6.6.4 Long Term Healthcare

The banks have considerable experience in the residential property market which puts them in an excellent position for home equity release schemes. By linking with other specialists they are well placed to enter this market.

6.6.5 The Future

For bancassurers the key to success is simplicity. The type of protection product to be sold will be simple and affordable. It must fit into the wide range of products and services offered by the bank. Plans with little or no underwriting could also be an attractive addition, especially if they could be designed for the older age market, where the banks can identify the wealthier customers.

As yet it could be argued that bancassurers have not taken full advantage of their low cost base in terms of their pricing. If they wish to compete on price this could have major implications for the other competitors in the marketplace.

6.7 Friendly Societies

The friendly society movement has developed into two distinct types of society. The traditional society which is organised on a regional or affinity group basis contrasts with the newer, perhaps more ambitious, society who competes with traditional life offices.

The older societies are still very active in disability, offering PHI style products with short or no deferred periods, generally for low sums insured. This is in a market where there is high customer loyalty and price is not always a major factor. The societies fill a genuine need for their members and there is every reason to believe that these needs will continue. With the further reductions anticipated in state benefits there is likely to be even greater need for protection cover in the future.

With traditional life offices raising their minimum premium levels their products are often beyond the reach of this market. If friendly societies can provide protection benefits at more modest premium levels, utilising low minimum premiums, lower levels of cover or more limited benefits, then they should find significant opportunities. Changes in legislation enable more product lines to be sold, but diversification will not be without its problems for the smaller established societies, increased regulation being just one example.

The newer societies are able to sell 'tax free savings plans' still enjoying gross roll up on monthly premiums of £25 per person. For families this could mean £100 or more per household and hence this market is attractive. Once their members are on board some societies have begun to make much greater use of their database. Offering protection products principally by direct mail, would now appear to be attractive to this market, perhaps on a simplified basis with limited underwriting, or even branding another company's product.

6.8 Direct Marketing

6.8.1 Direct Mail

In the past many companies have distributed a variety of products by direct mail, either to existing customers, affinity groups or other generalised lists of names they have obtained. Protection business has formed part of this market and has had varying success in the sales achieved.

In order not to put off potential purchasers the underwriting has to be of a limited nature, perhaps 3 to 6 questions only to be answered with a consequent effect that premium rates are unlikely to be near the most competitive in the market. If the influence of underwriting restrictions means such limited underwriting becomes more common for other distribution channels then premium rates would tend to become closer to those available elsewhere. However the decision to buy by direct mail is not always premium rate related and changes in this area may not influence the level of sales.

6.8.2 Telephone Sales

The last few years has seen a massive growth in telephone sales of motor and

household insurance in the UK. This has prompted some general insurance direct writers to try to apply the same principles to life assurance. Other life offices have also followed suit. In addition commercial organisations better known for other products, have also entered the market. Some of these companies have set out to provide full financial services from day one, with protection products being introduced later. Others have begun with protection.

The key question is whether direct selling of life assurance by telephone will succeed in the same way as non life. There is a crucial difference in the two marketplaces. Motor insurance is compulsory by law and hence the public are attuned to buying the products available and to finding the best price. Although home insurance is not compulsory most mortgage providers insist on cover being in place and hence the same argument applies - the insurance must be purchased.

Very few people enjoy buying insurance and most resent the perceived high level of premiums they have to pay. Spending money on clothes or holidays is a much more satisfying experience. Can we expect people to voluntarily telephone an insurance company and buy insurance that is not compulsory by law? The companies already in the market generally follow a full underwriting process on the telephone, the calls therefore last for at least 20-30 minutes until the process is complete. The success of such operations in the protection market will depend on whether the advertising to the target markets is good enough to convince people that the insured event is serious and to encourage them to make the telephone call to buy the cover.

6.8.3 *The Internet*

The Internet has been heralded as the future salvation of many organisations. Will it prove a significant method of future distribution for risk products? At this time such a nirvana for life assurers is a long way away, or is it?

It would seem that selling life and healthcare products via this route will face the same hurdles as telephone sales. However, the situation changes rapidly in the systems world and a SIAS paper in ten years time on the subject would be extremely interesting if read from today's standpoint!

7. Conclusion

'All would live long, but none would be old'

Benjamin Franklin

7.1 The Changing Environment in the UK

This paper has identified the following in the UK:

Social Changes

- Increased independence of women
- Breakdown of the traditional family unit
- Changing nature of employment
- Short term outlook
- Reduction in state support

Demographic Changes

- Ageing population
- Reducing mortality rates
- Increased life expectancy
- Increasing morbidity rates

External Influences

- Medical advances
- Regulatory and Political changes
- Introduction of the Disability Discrimination Act
- Advances in genetic science
- Changes in technology

7.2 Future Protection Products

The challenge facing life offices is how to design new protection products to target the changing needs of their policyholders.

Flexible products that appear simple to the client and can cope with his or her short term outlook together with changes in life path would be ideal. Improving technology to help with the sales process and administration can help achieve this aim. Some lateral thinking by product developers will be necessary.

The pace of change is unlikely to slow down. Can the life assurance industry prosper by providing appropriate protection products in a changing world?

Appendix 1 : Current Stance on Genetic Information - Nov. 1996

Australia

Proposed Code of Conduct

Life & disability insurance companies

- Will not initiate any genetic tests on applicants for insurance.
- May request that existing genetic test results be made available to the insurer for the purposes of classifying the risk.
- Will not use genetic tests as the basis of offering individuals insurance at a lower than standard premium rates.
- Will take account of the beneficial effects of screening and early treatment facilitated by genetic testing.
- Will ensure that results of existing genetic tests are only obtained with the written consent of the individual concerned.
- The results of genetic tests will only be used in the assessment of the insurance application of the individual on whom the test was conducted. The result will not be used in the assessment of insurance applications of relatives of the tested individual.
- Will ensure that strict standard of confidentiality apply in the handling and storage of the results of genetic tests.
- The results of genetic tests will not be made available to third parties other than reinsurance companies that may be directly involved in assessing the risk.

Belgium - Law

- The proposer has an obligation to declare any information known to him which he could reasonably be expected to consider as relevant to the risk assessment of the insurer.
- He does not have to disclose details which the insurer already knows or could reasonably be expected to know.
- Genetic data cannot be transmitted by anyone.

Netherlands

Moratorium in place last 6 years: for sums up to £125,000, will not ask for genetic tests or information on genetic tests now extended to include family history. Parliament now want to enshrine this in law.

France

Moratorium in place since 1994 effective for 5 years states insurance companies will not use genetic information even if it is favourable when deciding an applicants acceptability.

United Kingdom

Moratorium in place: Insurance companies will not ask for genetic tests to be undertaken as a condition of insurance; but the results of tests undertaken for other purposes must be disclosed.

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